

BEFORE THE  
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

In the Matter of:

TECK COMINCO ALASKA, INC.  
Red Dog Mine,  
Kotzebue, Alaska

NPDES Permit No. AK-003865-2

Docket No. CWA-10-2006-0263

COMPLIANCE ORDER BY  
CONSENT and REQUEST  
FOR INFORMATION

**I. STATUTORY AUTHORITY**

1.1. The following FINDINGS AND CONCLUSIONS are made, and COMPLIANCE ORDER BY CONSENT AND REQUEST FOR INFORMATION ("Order") issued, under the authority that Sections 308 and 309(a) of the Clean Water Act ("Act"), 33 U.S.C. §§ 1318 and 1319(a), vest in the Administrator of the United States Environmental Protection Agency ("EPA").

1.2. This authority has been delegated to the Regional Administrator, Region 10, and has been duly redelegated to the undersigned Director, Office of Compliance and Enforcement, Region 10.

**II. FINDINGS AND CONCLUSIONS**

**Regulatory Basis**

2.1. Section 301(a) of the Act, 33 U.S.C. § 1311(a), prohibits the discharge of pollutants by any person, except as authorized by a National Pollutant Discharge Elimination

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U.S. Environmental Protection Agency  
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(206) 553-1037 -

1 System ("NPDES") permit or other specified statutory sections. Section 402(a) of the Act, 33  
 2 U.S.C. § 1342(a), authorizes the Administrator of EPA to issue NPDES permits for discharges of  
 3 pollutants into waters of the United States upon such specific terms and conditions as the  
 4 Administrator may prescribe.

5 2.2. Each violation of an NPDES permit, and each discharge of pollutants that is not  
 6 authorized by an NPDES permit, constitutes a violation of Section 301(a) of the Act, 33 U.S.C. §  
 7 1311(a).  
 8

9 2.3. Teck Cominco Alaska, Incorporated ("Teck Cominco"), operates Red Dog Mine  
 10 ("the Mine"), which is located on Red Dog Creek, 82 miles north of Kotzebue, Alaska, at  
 11 latitude 68° 4' 17" and longitude 162° 52' 5". Teck Cominco is a "person" within the meaning of  
 12 Section 502(5) of the Act, 33 U.S.C. § 1362(5).

13 2.4. The Mine, which was under Teck Cominco's control at all times relevant to this  
 14 action, discharges "pollutants" within the meaning of Section 502(6) of the Act, 33 U.S.C. §  
 15 1362(6), from a "point source" (Outfall 001) within the meaning of Section 502(14) of the Act,  
 16 33 U.S.C. § 1362(14), into Middle Fork Red Dog Creek, which is "navigable waters" within the  
 17 meaning of Section 502(7) of the Act, 33 U.S.C. § 1362(7). The Mine's discharges constitute  
 18 "discharges of pollutants" from a point source, within the meaning of Section 502(12) of the Act,  
 19 33 U.S.C. § 1362(12).  
 20

#### 21 1998 Permit

22 2.5. Teck Cominco is authorized to discharge pollutants from the Mine under  
 23 NPDES Permit No. AK-003865-2 ("1998 Permit"). Under Section 401 of the Act, Alaska  
 24 Department of Environmental Conservation ("ADEC") certified the 1998 Permit, and it became  
 25

1 effective on August 28, 1998, and was due to expire on August 28, 2003, but has been  
2 administratively extended under 40 CFR § 122.6. Part I.A.1. of the 1998 Permit established an  
3 average monthly effluent limit of 170 mg/l, and a daily maximum effluent limit of 196 mg/l, for  
4 total dissolved solids ("TDS") at Outfall 001, based on the Alaska water quality standard in  
5 effect at that time.

6 **2003 Permit Modification**

7  
8 2.6. New TDS Limits. EPA issued a modified permit on July 17, 2003, effective  
9 August 22, 2003 ("2003 Modified Permit"). The 2003 Modified Permit contains new TDS limits  
10 and monitoring requirements based on revised Alaska water quality standards. The new permit  
11 limits require Teck Cominco to limit the TDS load discharged from Outfall 001 such that in-  
12 stream TDS concentrations at various locations and times do not exceed specified levels. See  
13 2003 Modified Permit Part I.A.8.

14 (a) For most of the discharge season, the maximum TDS concentration that the  
15 2003 Modified Permit allows in Main Stem Red Dog Creek is 1,500 mg/l as measured at  
16 the edge of the mixing zone in Main Stem Red Dog Creek.

17 (b) The 2003 Modified Permit further limits the maximum allowable TDS  
18 concentration to 500 mg/l at the edge of the mixing zone in Main Stem Red Dog Creek  
19 from the time the discharge commences in the spring (when the receiving water thaws)  
20 until Arctic grayling have finished spawning. The purpose of this more stringent  
21 restriction is to protect Arctic grayling during the spawning life stage.

22  
23 2.7. Appeal of New TDS Limit During Arctic Grayling Spawning. In an appeal of the  
24 2003 Modified Permit, the Environmental Appeals Board ("EAB") vacated the 500 mg/l TDS  
25

1 limit during Arctic grayling spawning, and remanded it to EPA Region 10 for further  
2 proceedings. EAB Appeal No. NPDES 03-09. The rationale for the ruling was that the EAB  
3 deemed the record insufficient to support the conclusion that the 500 mg/l TDS concentration  
4 adequately protected Arctic grayling spawning. This stayed the effect of that limit pending  
5 further action by EPA, so during Arctic grayling spawning the TDS limits from the 1998 Permit  
6 (specified in ¶ 2.5) remained in effect.

7  
8 2.8. New Flow Limit. The 2003 Modified Permit includes an overall wastewater  
9 discharge flow volume limit based on a mass balance equation. See Part I.A.8.j. of the 2003  
10 Modified Permit. The purpose of the flow limit is to ensure compliance with the maximum in-  
11 stream TDS concentrations specified in Part I.A.8 of the 2003 Modified Permit.

12 2.9. Additional Overall Cap on TDS Concentration. When EPA issued the 2003  
13 Modified Permit on July 17, 2003, Teck Cominco and EPA believed that the TDS concentration  
14 in the effluent at Outfall 001, with the wastewater treatment system then in place, would not  
15 exceed 3,900 mg/l over the life of the 2003 Modified Permit. In order to ensure that the mass  
16 balance equation used in the 2003 Modified Permit included a margin of safety, it required that  
17 Teck Cominco use 3,900 mg/l as the assumed effluent TDS concentration in the mass balance  
18 equation, and also required that the effluent concentration itself not exceed 3,900 mg/l. See 2003  
19 Modified Permit Parts I.A.8.j and I.A.8.f.

20 **New Information**

21  
22 2.10. Since the commencement of the appeal, additional laboratory data have become  
23 available concerning the effect of TDS on Arctic grayling spawning. Based on the results of the  
24  
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1 new data, ADEC adopted a site-specific criterion for TDS during Arctic grayling spawning of  
2 1,500 mg/l in the Main Stem of Red Dog Creek, which EPA approved on April 21, 2006.

3 2.11. On February 2, 2006, EPA issued for public notice, a draft NPDES permit for the  
4 Red Dog Mine ("2006 Draft Permit"). The 1,500 mg/l site-specific criterion for TDS during  
5 Arctic grayling spawning was included in the 2006 Draft Permit. The public notice period ended  
6 on March 27, 2006. Due to the large number of comments received, EPA will not be able to  
7 reissue the permit prior to the beginning of the 2006 Outfall 001 discharge season, which  
8 generally begins in May. Because EPA Region 10 has not yet reissued the permit as of the date  
9 of this Order, the 1998 Permit's original more stringent TDS limits, as set forth in Paragraph 2.5,  
10 remain the effective effluent limits during Arctic grayling spawning.  
11

12 **Permit Exceedances**

13 2.12. At times during the months of September 1998, May - October 1999, May -  
14 October 2000, May - October 2001, May - October 2002, May - August 2003, May - June 2004,  
15 and May - June 2005, Teck Cominco violated the TDS effluent limits in Part I.A.1 of the 1998  
16 Permit.

17 2.13. Teck Cominco's violations of the TDS limits in Part I.A.1 of the 1998 Permit  
18 constitute violations of Section 301(a) of the Act, 33 U.S.C. § 1311(a).  
19

20 2.14. Teck Cominco submitted information suggesting that it will not be in compliance  
21 with the 1998 Permit's TDS limits during the 2006 discharge season.

22 2.15. Discharge Volume Needs: Expected Exceedance of Maximum In-Stream TDS  
23 Levels. Because of the manner in which TDS is introduced into the Mine's wastewater during  
24 the wastewater treatment process, the TDS concentration in the receiving water is directly related  
25

1 to the volumetric rate at which the Mine discharges wastewater. Because of snow accumulations  
 2 during the past winter, and the water level in the Mine's tailings impoundment, dam safety  
 3 concerns may force the Mine to discharge wastewater at volumetric rates that cause exceedances  
 4 of the applicable TDS permit limits.

5 2.16. Expected Exceedance of Overall Cap on TDS Concentrations: Effect on Flow  
 6 Volume Limit. Since the issuance of the 2003 Modified Permit, Teck Cominco has notified EPA  
 7 that the effluent concentration may in fact exceed 3,900 mg/l at Outfall 001 during the 2006  
 8 discharge season. Teck Cominco initiated steps to reduce the TDS concentration in its effluent  
 9 prior to August 22, 2003, including design, bench testing, and construction of a new wastewater  
 10 treatment plant known as Water Treatment Plant 3. Those steps, however, will not reduce the  
 11 effluent TDS concentration significantly in the 2006 discharge season. For these reasons, the  
 12 following Order imposes an additional flow volume limit in the event TDS effluent  
 13 concentrations exceed 3,900 mg/l. This will result in the same in-stream TDS concentrations as  
 14 if the TDS concentration remained at or below 3,900 mg/L at outfall 001.

### 16 III. ORDER

17 3.1. Based upon the foregoing FINDINGS AND CONCLUSIONS, and pursuant to  
 18 Sections 308 and 309(a) of the Clean Water Act, 33 U.S.C. §§ 1318 and 1319(a), it is hereby  
 19 ORDERED as follows:

#### 20 Mixing Zones and Monitoring Stations

21 3.2. The "Main Stem Red Dog Creek mixing zone" begins at the confluence of North  
 22 Fork Red Dog Creek and Middle Fork Red Dog Creek and continues downstream for 1,930 feet.  
 23 "Station 10" is a water quality monitoring station located on the Main Stem Red Dog Creek a  
 24  
 25

1 short distance upstream of the confluence with the Ikalukrok Creek. "Station 151" is a water  
2 quality monitoring station located at the downstream end of the mixing zone in the Main Stem of  
3 Red Dog Creek. "Station 160" is a water quality monitoring station on Ikalukrok Creek several  
4 miles below the confluence with the Main Stem Red Dog Creek, and approximately three miles  
5 below the confluence of Dudd Creek with Ikalukrok Creek.

#### 6 Schedule for Compliance

7  
8 3.3. Teck Cominco shall achieve compliance with the applicable NPDES permit limits  
9 for TDS by December 31, 2006.

#### 10 Interim TDS Limits

11 3.4. After the commencement of discharge in 2006, Teck Cominco shall limit the TDS  
12 discharged from Outfall 001 so as to maintain in-stream TDS concentrations at Station 151 at  
13 1,500 mg/l or less.

#### 14 Mass Balance Calculation and Effluent Flow Volume Limit

15 3.5. In addition to applying the mass balance equations and complying with the  
16 resulting effluent flow volume limit in Section I.A.8.j. of the 2003 Modified Permit, Teck  
17 Cominco shall also apply the same mass balance equations using an assumed TDS effluent  
18 concentration equal to 110% of the highest effluent TDS concentration observed to date, instead  
19 of 3,900 mg/l as specified in the 2003 Modified Permit, and shall comply with any more  
20 stringent flow volume limits resulting from those calculations.

#### 22 Monitoring

23 3.6. Teck Cominco shall comply with the monitoring requirements in the Part I.A.8 of  
24 the 2003 Modified Permit.



1 **IV. SANCTIONS AND ENFORCEMENT**

2 4.1. Violation of, or failure to comply with, the provisions of this Order may subject  
3 Teck Cominco to: (1) civil penalties of up to \$32,500 per day of violation pursuant to Section  
4 309(d) of the Act, 33 U.S.C. § 1319(d), and 40 C.F.R. Part 19; (2) administrative penalties of up  
5 to \$11,000 per day for each violation, pursuant to Section 309(g) of the Act, 33 U.S.C. §  
6 1319(g), and 40 C.F.R. Part 19; or (3) termination of its Permit under 40 C.F.R. § 122.64.  
7

8 4.2. Nothing in this Order shall be construed to relieve Teck Cominco of the  
9 requirements of its NPDES permit or of applicable requirements of federal, state, or local law.  
10 EPA reserves the right to take enforcement action as authorized by law for any violation of this  
11 Order, and for any future or past violation of the Permit or any other applicable legal  
12 requirements.

13 **V. GENERAL PROVISIONS**

14 5.1. Reevaluation of Order's Requirements. EPA and Teck Cominco each understand  
15 that information will become available during the performance of this Order that may justify  
16 reevaluation of some of its provisions. EPA and Teck Cominco intend to confer periodically to  
17 exchange any new information, and to discuss any amendment to the Order's various terms that  
18 may be justified.

19 5.2. Force Majeure

20  
21 (a) If any event occurs which causes delay and effectively precludes compliance with the  
22 terms of this Order, Teck Cominco shall promptly notify EPA orally and shall, within seven days  
23 of oral notification to EPA, notify EPA in writing of the anticipated length and cause of the  
24  
25



1 delay, the measures taken and to be taken by Teck Cominco to prevent or minimize the delay,  
2 and the timetable by which Teck Cominco intends to implement these measures.

3 (b) If EPA determines, in its discretion, that the delay or anticipated delay of an  
4 obligation under this Order has been caused, or will be caused, by circumstances beyond the  
5 reasonable control and despite the due diligence of Teck Cominco ("Force Majeure"), then the  
6 time for performance of the delayed obligation shall be excused or extended for a period equal to  
7 the delay resulting from such circumstances.

8  
9 (c) Force Majeure shall not include increased costs of performance of the terms and  
10 conditions of the Order, changed economic circumstances, or reasonably foreseeable seasonal  
11 fluctuations in the weather conditions of the region.

12 5.3. Reservation of Rights


13 (a) The consent to this Order is not an admission of liability by Teck Cominco on any  
14 issue dealt with in this Order. In consenting to this Order, Teck Cominco does not admit, and  
15 reserves the right to controvert in any subsequent proceedings, the validity of or responsibility  
16 for any of the factual or legal determinations made herein. However, by its consent to this Order,  
17 Teck Cominco agrees that it will not controvert or challenge, in any subsequent proceedings  
18 initiated by the EPA or the United States, the validity of this Order or the authority of EPA to  
19 issue and enforce this Order.

20  
21 (b) Teck Cominco expressly reserves the right to claim that no harm has been or will be  
22 caused by the discharge described in this Order.

5.4. Parties Bound. This Order shall apply and be binding upon Teck Cominco, their agents, successors, and assigns and upon all persons, contractors, and consultants acting on behalf of Teck Cominco.

5.5. Property Transfer. If Teck Cominco transfers, sells, or leases the Mine to another party prior to Teck Cominco's fulfillment of the provisions of this Order, Teck Cominco shall incorporate a copy of this Order into the documents of transfer or lease, and shall provide in those documents that the new owners or lessees shall take or lease subject to the provisions of this Order.

Dated this 8<sup>th</sup> day of May, 2006

  
Michael A. Bussell  
Director, Office of Compliance and Enforcement  
U.S. Environmental Protection Agency, Region 10

1  
2  
3 AGREED AND CONSENTED TO BY:  
4

5 Teck Cominco Alaska Incorporated  
6

7  
8 By: 

9 John Knapp  
General Manager

10  
11 Date: May 8/06  
12  
13  
14

15 I, JOHN KNAPP, hereby certify that I am the General Manager of Teck Cominco's Red Dog  
16 Mine, and that I have the authority to enter into agreements on behalf of Teck Cominco, and to  
17 otherwise legally bind Teck Cominco. I hereby acknowledge that I have freely and voluntarily  
18 consented to and signed this Order on behalf of the Teck Cominco after obtaining advice of  
19 counsel.  
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